## Message Text

CONFIDENTIAL

PAGE 01 NEW DE 11164 302127Z

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**ACTION NEA-10** 

INFO OCT-01 ISO-00 SS-15 PM-04 SP-02 L-03 INR-07 OES-06

EB-07 /055 W

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R 301221Z JUL 76

FM AMEMBASSY NEW DELHI

TO SECSTATE WASHDC 7428

CONFIDENTIAL NEW DELHI 11164

FOLLOWING BOMBAY 1993 OF 30 JUL 76 SENT TO NEW DELHI FOR ACTION. BEING REPTD FOR YOUR INFO.

**QUOTE** 

CONFIDENTIAL BOMBAY 1993

EO 11652: GDS TAGS: TECH IN

SUBJ: KOTA HEAVY WATER PLANT--UNION CARBIDE PARTICIPATION

REF: A) BOMBAY 1896; B) BOMBAY 1949

- 1. UNION CARBIDE'S RESIDENT AMERICAN STAFF MEMBER RETURNED TO BOMBAY THIS WEEK AND PROVIDED FOLLOWING INFORMATION REGARDING HIS COMPANY'S PARTICIPATION IN THE CONSTRUCTION OF THE HEAVY WATER PLANT AT KOTA.
- 2. UNDER CONTRACT WITH BARC (BABA TOMIC RESEARCH CENTER) UNION CARBIDE INDIA LIMITED (UCIL) HAS ERECTED AND EQUIPPED ELEVEN LARGE DISTILLATION TOWERS FOR THE KOTA HEAVY WATER PLANT. AS PRIMARY CONTRACTOR FOR THIS PART OF HEAVY WATER PLANT UCIL SUBCONTRACTED THE CONSTURCTION PHASE TO AN INDIAN FIRM AND PROCURED ALL OFTHE EQUIPMENT LOCALLY LARGELY FROM THE BOMBAY FIRM OF LARSEN-TOUBRO. THEEQUIPMENT WAS MANUFACTURED IN ACCORDANCE WITH DESIGN AND SPECIFICATIONS PROVIDED BY UNION CARBIDE. MUCH OF THE CONFIDENTIAL

CONFIDENTIAL

PAGE 02 NEW DE 11164 302127Z

EQUIPMENT DESIGN IS A PROPRIETARY PROCESS OWNED BY UNION CARBIDE'S

LINDE DIVISION. THERE IS A SECOND CONTRACT BETWEEN UNION CARBIDE (USA) AND BARC PROVIDING FOR PAYMENT IN DOLLARS AS ROYALTY FOR USE OF UNION CARBIDE'S PROPRIETARY RIGHTS. THE CONSTRUCTION AND LOCAL EQUIPMENT PROCUREMENT PARTS OF THE UCIL CONTRACT ARE PAYABLE IN RUPEES AND RUN INTO THE EQUIVALENT OF MILLIONS OF DOLLARS. THE ROYALTY PAYMENTS IN DOLLARS ARE MUCH SMALLER.

3. UNION CARBIDE PARTICIPATION WAS INITIALLY SUGGESTED TO BARC BY THE CANADIANS AS PRACTICALLY ALL HEAVY WATER PLANTS IN THAT COUNTRY USE THE LINDE PROCESS WHICH WAS INSTALLED BY UNION CARBIDE. HOWEVER NONE OF THE KOTA WORK WAS FINANCED UNDER THE CANADIAN AID PROGRAM.

4. THE LOCAL UC OFFICIAL SAYS THAT AFTER THE 1974 INDIAN NUCLEAR EXPLOSION UNION CARBIDE (USA) WAS TOLD BY THE USAEC TO HALT THE PROVISION OF THE PROPRIETARY EQUIPMENT TO THE KOTA PLANT. THE LOCAL AMERICAN UNION CARBIDE STAFF MAN BELIEVES THAT THIS INJUNCTION WAS INFORMAL AND NOT IN WRITING. NEVERTHELESS UCIL FELT IT HAD TO CEASE WORK ON THE PARTS OF THE CONSTRUCTION AND EOUIPMENT PROJECT THAT INVOLVE UNION CARBIDE'S PROPRIETARY COMPONENTS. SETHNA REPORTEDLY BECAME VERY ANGRY OVER THESE DELAYS AND PROTESTED VIGOROUSLY, AFTER A SIX-MONTH HOLD UP, UNION CARBIDE (USA) REPORTEDLY RECEIVED A LETTER FROM THE AEC OR A SUCCESSOR ORGANIZATION AUTHORIZING RESUMPTION OF THE PROVISIONS OF UNION CARBIDE'S PROPRIETARY WORK AT KOTA. THE LOCAL UNION CARBIDE REPRESENTATIVE DOES NOT HAVE A COPY OF THIS LETTER BUT IS CERTAIN THAT IT EXISTS. THE DISTILLATION TOWERS ARE NOW VIRTUALLY COMPLETE BUT UCIL BELIEVES THAT PRODUCTION IS AT LEAST TWO YEARS AWAY BECUASE WORK HAS NOT YET EVEN BEGUN ON FRONT AND BACK ENDS OF THE PLANT. THE HOLD-UP IS LARGELY CAUSED BY LACK OF COMPRESSORS THAT WERE ORIGINALLY TO BE SUPPLIED BY ALLIS-CHALMERS (CANADA). THE LOCAL UNION CARBIDE REPRESENTATIVE HAS BEEN TOLD BY THE IAEC THAT FIRM ORDERS FOR COMPRESSORS HAVE BEEN PLACED WITH A FOREIGN SUPPLIER AND THAT CONSTRUCTION WORK ON THE PIPES TO FEED AND EXIT GASES FROM THE COMPRESSORS CAN BEGIN SOON, APPARENTLY MILES OF PIPE MUST BE DESIGNED OR AT LEAST APPROVED BY THE SUPPLIER OF THE COMPRESSORS. IT IS THE PIPING RATHER THAN THE COMPRESSORS THEMSELVES THAT ACCOUNT FOR UNION CARBIDE'S ESTIMATE OF TWO YEARS FOR INITIATION OF PRODUCTION AT THE HEAVY WATER PLANT.

CONFIDENTIAL

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PAGE 03 NEW DE 11164 302127Z

5. UNLIKE THE BARODA AND TALCHER HW PLANTS, THE KOTA INSTALLATION IS NOT A TURN-KEY OPERATION DONE BY A FOREIGN SUPPLIER. HOWEVER, IT SEEMS QUITE CLEAR THAT THE BASIC COMPONENTS, IE, DISTILLATION COLUMNS AND COMPRESSORS WERE PROVIDED BY FOREIGN COMPANIES AND THUS THE DAE IS STRETCHING A POINT WHEN IT REPEATEDLY STRESSES IN ITS ANNUAL REPORTS THAT KOTA PLANT IS BASED ON TECHNOLOGY DEVELOPED AT THE BARC. THE LATTER'S ROLE WOULD SEEM TO BE LARGELY THAT OF CONTRACT SUPERVISION.

6. COMMENT: I THINK IT IS CLEAR FROM THE ABOVE ACCOUNT THAT IT WOULD BE WISE TO CONTINUE TO RESIST ANY SUGGESTION FOR VISITING KOTA. THE PROBLEMS THERE ARE OBVIOUSLY COMPLICATED AND CRITICAL. COURTNEY
UNQUOTE
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## Message Attributes

Automatic Decaptioning: Z Capture Date: 01 JAN 1994 Channel Indicators: n/a

**Current Classification: UNCLASSIFIED** 

Concepts: CONSTRUCTION, HEAVY WATER, NUCLEAR POWER PLANTS

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Review Authority: vogelfj

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Margaret P. Grafeld Declassified/Released US Department of State EO Systematic Review

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Subject: KOTA HEAVY WATER PLANT--UNION CARBIDE PARTICIPATION

TAGS: TECH, IN, UNION CARBIDE INDIA To: STATE

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